

## MEMORANDUM FOR Biologist, Operations Division (CENWP-OD)

SUBJECT: Bonneville Project, Fishway and Fish Activities for Week 10 of 2016, which covers the period from 06 to 12 March 2016.

**1. OPERATION SUMMARY:**

a. Daily average river flows ranged from 213.3 to 248.9 kcfs. Daily average powerhouse forebay elevation ranged from 72.7' to 74.1' msl. Daily average project tailwater ranged from 18.6' to 21' msl. Secchi disk measurements ranged from 4' to 6'. Daily average water temperature ranged from 42- 43° F.

b. Spill Bays 01 and 18 provide attraction flow for Cascades Island and B-branch, respectively. Daily average spill ranged from 1.2 to 14.9 kcfs.

c. Unit Operation. PH2 remains the priority powerhouse. Main unit draw downs are measured every Monday and more frequently as needed.

## (1) Table 1. Unit Outages.

Unit	OOS Date	RTS Date	Reason
11	1321 on 07 Mar	1556 on 07 Mar	Rake Trash
10	0747 on 08 Mar	1033 on 08 Mar	Rake Trash
F1	0006 on 09 Mar	1340 on 09 Mar	Install blocking plate on C5 diffuser
F2	0006 on 09 Mar	1340 on 09 Mar	Install blocking plate on C5 diffuser

d. Fish Units. Second Powerhouse fish units provide attraction flow for the Washington Shore (WS) fish ladder.

(1) The fish units were placed on standby to float trash, or to allow trash to be raked on units 17 and 18 without causing debris to be pulled to the fish units, during the following times:

F1: 009 to 0225 on 12 March.

F2: 2206 on 11 Mar to 0233 on 12 Mar.

(2) Table 2. Fish unit drawdowns, in feet.

Date	F1	F2
3/6	0.4'	1.9'
3/7	0.3'	0.4'
3/8	0.-'	0.-'
3/9	0.3'	0.3'
3/10	0.6'	0.9'
3/11	0.5'	3.2'
3/12	0.2'	0.8'

## 2. ACTIVITIES:

### a. Auxiliary Water System Closures

- (1) FV1-1 was closed for cleaning from 0707 to 0717 on 07 March and from 1319 to 1334 on 09 March.
- (2) FV 3-9 was closed for cleaning from 1249 to 1338 on 08 March.

### b. STS/VBS inspections - Table 3

Unit	Date	Comments
11	24 Feb	STS installed
12-15	23 Feb	STS installed
16-18	22 Feb	STS installed

### c. Dewatering and Fish Salvages

- (1) No fish salvages were conducted.

## 3. RESEARCH:

- a. Normandeau – Fish Counting. Visual counting ended and video counting began on 01 December.
- b. Fisheries Field Unit--Pinniped Observation. Observations began on 04 January.
- c. PSMFC – Smolt Monitoring Program. Juvenile fish condition and index monitoring began at 0700 on 02 March. The kelt trigger was reached at 1130 on 05 March. No research fish were collected this reporting week. Fallbacks recorded crossing the separator bars: 24 Steelhead, 1 Salmon. More details can be found on the [FPC web page](#).

**4. FISHWAYS:**

a. Project biologists inspected 06 – 12 March.

b. Fish passage plan observations.

(1) Table 4. FPP out of criteria items.

Date	Location	FPP Items	Cause	Response
<b>BRADFORD ISLAND</b>				
3/6,10,11	A-branch	Water over weir > 1.1'	Unknown	None
<b>CASCADES ISLAND</b>				
3/11	FG6-20	Closed at 22.5' tailwater	Unknown	Ops Adjusted
<b>WASHINGTON SHORE</b>				
3/6-12	PH2	Diffuser A2 closed	See 4.b.2 below	None
3/8,12	PH2	Entrance Differential >2.0'	Sensors out of calibration	Manually adjust water levels, order calibration
3/6-11	SDE	Entrance Submergences <13'	Unknown	None
3/6-12	SUE	Entrance Submergences <13'	Unknown	None
3/6,9	NDE	Entrance Submergences <13'	Unknown	None
3/6	NUE	Entrance Submergences <13'	Unknown	None

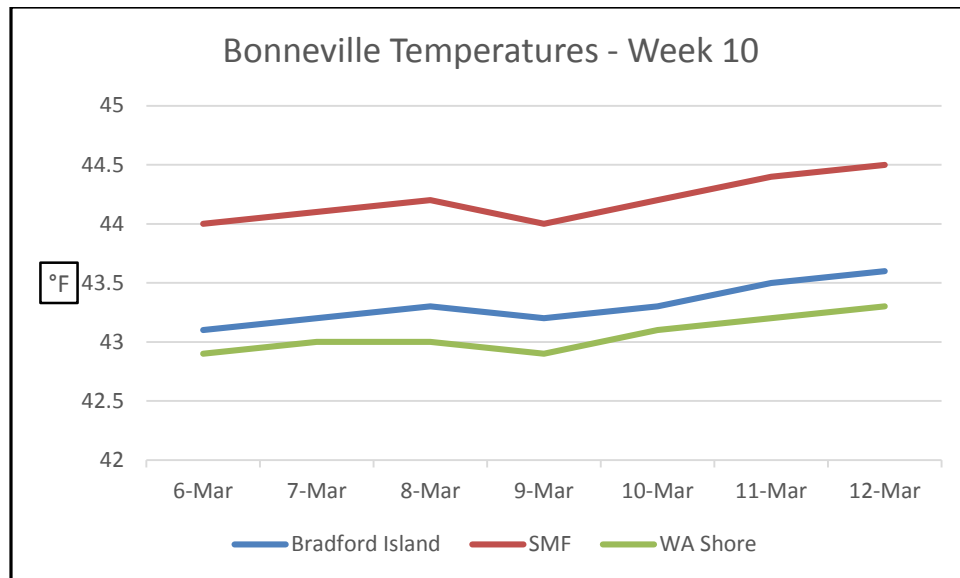
(2) PH2CC diffuser A2 was unable to be repaired during winter maintenance 2014/15 and remains closed. It should be open when tailwater is above 13.0' msl. The gate for diffuser B5 was removed for repairs and therefore cannot be closed. It should be closed below tailwaters of 12.0' msl.

c. Fishway Temperatures. Temperatures are taken from 01 March through 30 November. Forebay temperatures can be found [online](#). The BON site is not yet active.

(1) Table 5. Average daily water temperatures measured at fish facilities (Fahrenheit).

Date	Fishways		
	Brad. Is.	WA Shore	SMF
6-MAR	43.1	42.9	44.0
7-MAR	43.2	43.0	44.1
8-MAR	43.3	43.0	44.2
9-MAR	43.2	42.9	44.0
10-MAR	43.3	43.1	44.2
11-MAR	43.5	43.2	44.4
12-MAR	43.6	43.3	44.5

(2) Figure 1. Graph of water temperatures measured at fish facilities.



d. Zebra Mussel Monitoring. No signs of colonization were observed this reporting week.

e. Avian Monitoring. Bird counts are made between 01 April and 31 October.

f. Adult Fishways.

(1) Fishway instrument calibration was checked on 09 March.

(2) Eight of 12 floating orifice gates (FOGs) are installed; the 4 middle slots have bulkheads in place. FOG sea lion bars are installed. Plywood sea lion barriers were installed on top of all FOGs on 11 February to prevent sea lions from jumping into the PH2CC.

(3) All SLEDs are installed.

(a) On 08 March the south downstream entrance SLED was temporarily raised to accommodate the installation of a blocking plate on PH2 C5 diffuser. The SLED was lowered the following day.

g. Juvenile Fishways.

- (1) The ITS remained open.
- (2) The hydro-cannon is on.
- (3) The B2CC remains open.
- (4) The DSM remains in service.

h. Lamprey Fishways.

- (1) All LPSs remain out of service.

**5. CONSTRUCTION:**

a. The Navigational Lock went out of service for annual maintenance at 0600 on 05 March.

**6. HAZMAT, SPILLS AND CLEANUP:** Nothing to report.

**7. TELETYPES CURRENTLY IN EFFECT:**

- a. A teletype sent on 06 January updated previous Chum tailwater operations. Effective immediately until further notice operate BON tailwater at a minimum of 12.5' for all hours. This operation is to protect Chum Redds below BON at the Ives/Pierce Island complex.
- b. A teletype sent on 3 March states that from 0900 to 1500 on 8 March, the BON forebay should not exceed 74.5', soft constraint, to facilitate vegetative planting near Meyers State Park.

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